

ABSTRACT OF THE DISCLOSURE

The present invention provides a rapid virus entry/binding
5 detection assay. An enzyme such as luciferase was incorporated at the C-
terminal end of viral envelope proteins that would deliver the enzyme into the
viral particles upon viral assembly. Virus entry/binding can then be assayed by
determining the enzymatic activities in infected cells. The assay allows high-
throughput non-radioactive detection of virus entry within 30 minutes after virus-
10 cell contact. This assay provides high signal to noise ratio and is useful for
screening compounds that affect virus-cell binding and entry. The design also
permits packaging of potential therapeutic proteins into functional virus
particles and delivering them to specific cellular targets.